

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
School of Health Sciences

End Semester Examination, December 2021

Programme Name: B.Sc Food Nutrition and Dietetics
Course Name : Food Processing Technology

Semester : 5th
Duration : 03 hrs

Course Code : HSCC3005

Max. Marks : 100

Instructions :All the questions are compulsory

SECTION A

		Marks	
Q 1	Heating of the frozen food is termed as.....	1.5	CO1
Q2	.....is used for the immersion freezing as the freezing agent.	1.5	CO1
Q3	.....logo is used for irradiated food products.	1.5	CO3
Q4	Hard impermeable skin formed at surface during drying is termed as	1.5	CO2
Q5	.....is the source of microwave for processing of food.	1.5	CO3
Q6	..... can be added to plastic materials in order to reduce their light transmission.	1.5	CO4
Q7	At — ----- moisture content constant rate period ends and falling rate period start	1.5	CO2
Q8	.....centrifuge is widely used in dairy industries?	1.5	CO5
Q9	Freeze crack is seen when foods are frozen by.....	1.5	CO1
Q10	The separation of solids from suspension in liquid by gravity alone is called as.....	1.5	CO5
Q11	The slurry no 1 of solid A and liquid B. The slurry no 2 composed of solid A and liquid C. The viscosity of B is greater than that of C. All other conditions being same in both cases. State in which case, time of filtration will be more. a. Slurry no 1 b. Slurry no 2 c. Both slurries d. Can not predict	1.5	CO5
Q12	Fractionation column is divided into two sections, one is called as rectifying section and other is called a. Drectifying section b. Stripping section c. Fractioning section	1.5	CO5

	d. Condensation section		
Q13	Which dryer is commonly used for wet filter cakes and wet lumpy solids a. Spray b. Roller c. Drum d. Tray	1.5	CO2
Q14	Use of filter aid is to a. Increase the filtering efficiency b. Decrease the filtering efficiency c. To give body to the filtrate d. To increase the mass of cake	1.5	CO5
Q15	Radiation is use of a. Electric current to sterilize the product b. Magnetic energy to sterilize the product c. Heat energy to sterilize product d. Irradiation to sterilize the product	1.5	CO3
Q16	Which of the following statements is correct? a. Nucleation occurs at temperature below the freezing point of product b. Nucleation is the first step in ice crystallization c. Nucleation acts as the platform for the crystal growth d. All of the above	1.5	CO1
Q17	Aluminum foil acts a. as good barrier for vapour b. as good barrier for oxygen c. as good barrier for light d. all of the above	1.5	CO4
Q18	Function/s of a compressor in a VCR is/are a. To decrease the pressure of liquid refrigerant b. To liquefy the refrigerant vapour c. To provide the refrigerant the pressure energy to complete the cycle d. None of the above	1.5	CO1
Q19	OTR in plastic films stands for a. Ozone transfer rate b. Oxygen transmission rate c. Oxygen transfer rate d. None of the above	1.5	CO4
Q20	In solvent extraction process, the selectivity of solvent: a. Decreases with decrease in temperature b. Increases with decrease in temperature c. Is independent of temperature d. Increases only linearly with decrease in temperature	1.5	CO5
SECTION B			
Short answer type questions			

Q1	Outline the various component of microwave? List the advantages of microwave heating and its effect on food quality?	05 (3+2)	CO3
Q2	Briefly describe the various low temperature preservation techniques used in food processing. Enlist the equipment's used for IQF?	05 (3+2)	CO1
Q3	Distinguish between belt and bucket conveyor for material handling?	05	CO5
Q4	Discuss the freezing curve? What do you understand by refrigeration load?	05 (4+1)	CO1
SECTION C			
Case studies questions			
Q1	A frozen food company has developed a new product "X" which is rich in fat and contains light sensitive compounds. The company is designing a suitable packaging system to enhance the shelf life of the product to 12 months. a. List the important selection criteria for the packaging of X? b. Discuss the various packaging materials that can be used for the product X? c. Which factors need to be studied for the packaging films used for product X to prevent hydrolytic and oxidative rancidity in the product? Give reasons.	15 (5+5+5)	CO4
Q2	A company wants to produce uniform particle size, good rehydration property, low bulk density and excellent flowability fruit juice powders. a. Which drying method is most suitable for the above-mentioned juice powders? b. Explain using the line diagram, the principle and process of the drying technique. c. What are the possible problems associated with the application of this drying technique for fruit juices ? d. Compare the drying method with freeze drying technique? e. 100 kg of orange juice is to be dried from 60 % to 20 % moisture (by weight). Calculate the mass of moisture removed in kg?	15 (1+5+3+4+2)	CO2
SECTION D			
Long answer type questions			
Q1	Give a detailed description and application of SCF? Why Carbon dioxide is the solvent of choice for SCF?	10 (7+3)	CO5
Q2	Why is irradiation called as cold pasteurization? How does irradiation protect the food ? Enlist the irradiation doses for various food preservation applications? Discuss the safety of irradiation technology in food.	10 (2+3+3+2)	CO3